

REMARKS

Claims 1-11 are all the claims pending in the application, of which claims 6-9 have been withdrawn from consideration.

Applicants have herein added claim 11, which is supported at least by the paragraph spanning pages 8 and 9, and the second full paragraph on page 9. No new matter has been added.

Statement of Substance of Interview

Applicants thank the Examiner for the courteous interview of May 28, 2009. During the interview, Applicants' representative discussed incorporating claim 2 into claim 1 and whether such combination would have been obvious in light of the art of record. No agreement was reached. Applicants' representative also discussed new claim 11 and the Examiner indicated that further search and consideration was required. Applicants have amended the claims in accordance with the amendments discussed during the interview.

Claim Rejections - 35 U.S.C. § 102

Claims 1, 3, 5, and 10 are rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Ohsaki et al. (U.S. Patent 6,878,360; hereinafter "Ohsaki").

Applicants have herein incorporated the features of claim 2 into claim 1 and have canceled claim 2. Applicants have accordingly amended the dependency of claim 3.

With regard to claim 2, the Examiner alleges that it would have been obvious to modify Ohsaki to include the graphite target and light source of Achinami to maintain better control over the final nanocarbon products' chief characteristics (Office Action, page 4).

Applicants respectfully submit that it would not have been obvious to modify Ohsaki in this manner because the method of producing carbon fibers using a furnace (as in Ohaski) and the method using laser ablation (as in Achinami and the present invention) are fundamentally different methods that pose their own unique characteristics.

Ohsaki discloses that the use of a furnace to produce carbon fibers presents the problem that fibrous products are deposited on the inside surface of the furnace (column 2, lines 6-11), and that fibers falling down through the reactor are deposited on these fibrous products, thus forming an increased amount of the fibrous products which finally block the furnace reactor (column 2, lines 29-35). On the other hand, use of a graphite target and light source, such as in laser ablation, produces nanohorn assemblies having a very low density which results in the produced nanohorn assemblies easily drifting in the air (*see* present Application, page 2, first full paragraph). Applicants submit that one skilled in the art would not have been led to switch the furnace/reactor components required in a carbon fiber production device directed at a problem inherent in the furnace/reactor method with a graphite target and light source used in the laser ablation method. Moreover, switching the furnace/reactor components of Ohsaki for the graphite target and light source would present a new problem that the nanohorn assemblies would float and be difficult to recover as discussed above.

Accordingly, it is submitted that the unique combination of claim 1 is patentable over the art of record at least for the above reasons. Furthermore, because claims 2, 3, 5 and 10 depend from claim 1, these claims are patentable at least by virtue of their dependency.

Claim Rejections - 35 U.S.C. § 103

Claim 2 is rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Ohsaki in view of Achinami.

Applicants have incorporated claim 2 into claim 1 and have canceled claim 2. Thus, this rejection is discussed above as it relates to claim 1.

Claim 4 is rejected under 35 U.S.C. § 103 as allegedly being unpatentable over Ohsaki in view of Achinami and further in view of Miley et al. (U.S. Patent 6,171,451; hereinafter "Miley").

Miley fails to supply the deficiencies of Ohsaki/Achinami. More specifically, as discussed in the previous Amendment of February 13, 2009, Miley discloses a device for producing fullerenes using the wash down system. The removal of fullerenes from the chamber is accomplished with an air-lock/load lock stem 129 (see column 10, lines 31 to 47 of Miley). In other words, Applicants submit that Miley does not disclose a nanocarbon recovery chamber. Further, Miley discloses the manufacturing chamber having a system washing out the fullerenes, however Miley does not disclose a moisturizing unit in a nanocarbon recovery chamber. Consequently, the device for producing fullerenes must be stopped during washing out the fullerenes.

Therefore, it is submitted that claim 4 is patentable at least by virtue of its dependency.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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